

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (Currently Amended) An integrated circuit for the authentication of a consumable storage device by an apparatus, the integrated circuit comprising a memory space which contains encrypted data defined by a message authentication code (MAC) applied to data relating to a consumable stored by the device, the MAC being a construction of an asymmetric cryptographic function whereby a public key  $K_T$  of the apparatus is used to decrypt an encrypted random number appended to the data, the random number being encrypted as generated by the public key  $K_T$  of another integrated circuit of the apparatus and, and a secret key  $K_A$  of the apparatus is used to decrypt encrypted data stored in the memory space.
2. (Original) An integrated circuit as claimed in claim 1, in which the cryptographic function is a hash function such that the MAC is an algorithm known as HMAC.
3. (Original) An integrated circuit as claimed in claim 2 in which the hash function is one of an MD5 function and a SHA-1 function.
4. (Original) An integrated circuit as claimed in claim 2, in which the hash function is an SHA-1 function.
5. (Original) An integrated circuit as claimed in claim 4, which is configured to define a number of temporary registers and rotating counters and to calculate an output word on an iterative basis by calculating and allocating words to respective registers during processing of the SHA-1 function.
6. (Cancelled)
7. (Currently Amended) A method of encrypting data relating to a consumable of a consumable storage device for an apparatus and stored by an integrated circuit, the method including the steps of:
  - applying a message authentication code (MAC) to the data using two keys shared by the apparatus to decrypt the data, the MAC being a construction of an asymmetric

cryptographic function whereby one of the keys is a public key used to decrypt an encrypted random number appended to the data, the random number being encrypted as-generated-by the public key of another integrated circuit of the apparatus and, and the other key is a secret key used to decrypt encrypted data stored in the first-mentioned integrated circuit.